

- Title** Pulse Oximetry Screening for Critical Congenital Heart Disease in Newborn Infants
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**Aim**

To review evidence on the safety, effectiveness and cost-effectiveness of oxygen saturation test using pulse oximetry for detection of critical congenital heart disease in newborn infants.

**Conclusions and results**

Oxygen saturation test using pulse oximetries have shown to be an effective method as an adjunct to physical examination in detection of critical congenital heart disease in newborns infants. There are also good levels of evidence to indicate that pulse oximetry is effective to detect congenital heart disease in newborns. Many of the studies retrieved shown that pulse oximetry has good specificity compared to sensitivity when used alone. Sensitivity increased when used with clinical examination. However, there was no evidence retrieved on the safety or adverse event using pulse oximetry as a screening method to detect congenital heart disease in newborns.

**Recommendations (if any)**

Based on the review, the oxygen saturation test using pulse oximetry is recommended as adjunct to physical examination in detection of critical congenital heart disease in newborn infants.

**Methods**

Literatures were searched through electronic databases specifically PubMed, Medline, Cochrane, Ovid, Horizon scanning databases, other websites and from non-scientific database-Google search engine. In addition, a cross-referencing of the articles retrieved was also carried out accordingly to the topic. Relevant articles were critically appraised and evidence graded using US/ Canadian Preventive Services Task Force.

**Further research/reviews required**

The newborn physical examination alone sometimes may not be able to detect newborn infant with CHD. To put oxygen saturation test using pulse oximetry together with newborn physical examination will help to prevent babies discharged from hospital undiagnosed. However, all the evidence needs to be updated from time to time to improve clinical outcomes.

**Written by**

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